Appl. No. 10/709,198
Amdt. Dated Sept. 01, 2005
Reply to Office action of June 14, 2005

REMARKS

Claim 2 and 3 are objected to the phrase "can be" renders the claim indefinite

      Applicant has amended claim 2 to state that the denominator of the voltage gain of the amplifying stage is expressed as (K1+exp(K2xVy)). Similarly, claim 3 is amended to state

5   that the gain controlling voltage is expressed in the form of the difference of the first and the second controlling voltages. No new matter is entered by these amendments.

Claims 1 –3 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 2 of

10   **copending application 10/708,202**

      Applicant has included a terminal disclaimer in compliance with 37 CFR 1.321(c) to overcome the provisional rejection as the conflicting application is commonly owned with the present application.

15   **Claims 1-4, 8, 9 are rejected under 35 USC 102b as being anticipated by Fritz US patent No. 5,030,924**

      Applicant asserts that claim 1 is not anticipated by Fritz because Fritz does not teach that the voltage gain is inversely proportional to a simple exponential function. In particular, as shown on col. 6, line 20, the denominator of the voltage gain $1+e^N$ disclosed by Fritz

20   includes the constant term "1". As such, the voltage gain resulting from the circuit of Fig.1 / Fig.2 is not inversely proportional to a simple exponential function. That is, the voltage gain $1+e^N$ disclosed by Fritz is similar in form to the denominator of the voltage gain

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$1 + \exp(\dfrac{Vy}{Vt})$ described in Fig.2 of the prior art section of the present invention. The denominator is not deemed a simple exponential function because of the addition of the constant term "1". This is in contrast to the present invention as shown in Fig.6 and claimed in claim 1, where the voltage gain is inversely proportional to a simple exponential function,

5   which does not include the addition of the constant term "1". Applicant asserts that claim 1 is not anticipated by Fritz since Fritz at least fails to teach or suggest a voltage gain being inversely proportional to a simple exponential function. Reconsideration of claim 1 is respectfully requested. As claims 2-4, 8, 9 are dependent upon claim 1, if claim 1 is found to be allowable, so too should the dependent claims.

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New Claims

New claims 13-23 are added. No new matter is introduced by the newly added claims. Concerning the patentability of new independent claim 13 with respect to the teachings of Fritz, applicant points out that Fritz does not teach that "the voltage gain changes linearly in

15   decibel in response to the difference between the first controlling voltage and the second controlling voltage", as is claimed in claim 13. Since the denominator of the voltage gain $1 + e^N$ disclosed by Fritz (col. 6, line 20) does not eliminate the addition of the constant term "1", the voltage gain taught by Fritz changes non-linearly in decibel and has a characteristic

similar to that of the voltage gain $Av = \dfrac{K}{1 + \exp(\dfrac{Vy}{Vt})}$ shown in Fig. 2 of the prior art section
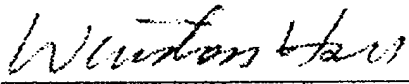
20   of the present invention. For at least this reason, applicant asserts that claim 13 should be found allowable over Fritz. As claims 14-23 are dependent upon claim 13, if claim 13 is found to be allowable, so too should the dependent claims 14-23. Consideration of new claims 13-23 is respectfully requested.

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Sincerely yours,

5 *[signature]*   Date: ___September 01, 2005___

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Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan.)

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